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7590

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EXAMINER

WINNER, TONY H

ART UNIT

PAPER NUMBER

3611

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/751,037

Applicant(s)

FUKUDA ET AL.

Examiner

Tony H. Winner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 5/30/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-34 is/are pending in the application.
- 4a) Of the above claim(s) 28 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-12, 15, 17, 18, 20-27, 29 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/30/06 3/17/06 (R)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Acknowledgment***

1. Receipt of the amendment filed 5/30/06 has been acknowledged and entered. Claims 1-9, 13-14, 16, and 19 are canceled. The office is withdrawing all objection and claims rejections in view of the amendment. However, the office finds the IDS filed 5/30/06 contains a non patent literature document that may be applicable to the claimed invention. The rejection is fellow.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-12, 15, 17, 18, 20-22, 24-27, 29, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of JP-Final Office Action (JPFOC)

Cheng teaches substantially all that is closed including:

- a. a ball screw nut 72,
- b. a bearing 76, and
- c. a presser member 80 abutting the bearing and having a female thread for engaging with a male thread of the ball screw nut (the presser member is understood to have been rotatably screwed onto the ball screw nut by some type of tool for putting together the pads of the steering system and wherein the presser member is attached

to the ball screw nut in the normal way threaded components are attached to each other, as recited in claim 20, i.e., by not causing a deformation).

Cheng does not specifically disclose a connecting device capable of limiting a relative rotation between the presser member and ball screw nut, the function of limiting a relative rotation being performed after the threads are fastened, despite loss of bonding force between the threads by means of a shearing force of resinous material that could serve as a filler coated on the threads of the presser member.

JPFOC discloses that it would be obvious or routine manner used by those skilled in the art to "inhibit looseness by caulking a part of a nut to a bolt side.

Based on the teaching of JPFOC, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the presser member and ball screw nut of Cheng to include the caulking of JPFOC so as to provide a means to limiting a relative rotation between the presser member and ball screw nut.

Since the resulting structure of the modified Cheng device would result in all the method steps of claim 33 and 34 having been performed, those respective method steps are met by the combination just discussed.

3. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng as modified by JPFOC as applied to claims 21 above and further in view of Wallace.

The modified Cheng vehicle discloses all of the claimed limitations except for the use of filler coated on a thread of the presser member. Wallace discloses the known use of a resin to lock a threaded coupling.

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It would have been obvious to modify Cheng, by using a resin lock, as taught by Wallace to prevent loosening of the presser member since Cheng discloses the use of a 'lock nut' and since Wallace teaches that the use resin is desirable to oppose separation of threaded members, and because the prevention of loosening of the presser member is clearly desirable in a critical device such as a steering system.

#### ***Response to Arguments***

4. Applicant's arguments filed 5/30/06 have been fully considered but they are moot in view of new ground of rejection.

#### ***Allowable Subject Matter***

5. Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


#### ***Conclusion***

6. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Anthony H. Winner whose telephone number is (571) 272-6654. The examiner can normally be reached on Monday-Friday from 9:30 am to 6:30 pm. The fax phone number for the organization where this application or proceeding is (571) 273-8300.

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7. Information regarding the status of an application may be obtained from the Patent Application Information-Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-6584.

  
**TONY WINNER**  
**PATENT EXAMINER**

August 15, 2006